



तेजपुर विश्वविद्यालय / TEZPUR UNIVERSITY
(संसद के अधिनियम द्वारा स्थापित केंद्रीय विश्वविद्यालय)
(A Central University established by an Act of Parliament)
कुल सचिव का कार्यालय/ OFFICE OF THE REGISTRAR
नपाम :: तेजपुर - 784028 :: असम
NAPAAM :: TEZPUR - 784028 :: ASSAM

SHORT QUOTATION NOTICE

TU/11-24/Pur/Qtn/2017-18/3317. Dated: 03-11-2017.

Sealed quotations are invited from reputed manufacturers/authorized dealers/vendors for supply, installation & commissioning etc. of following items required under the AICTE NEQIP Grant (Department of Mechanical Engineering), Tezpur University.

Item with Specifications:

Sl. No	Name of equipment	Technical Specifications
1.	Environmental Chamber	<p>Temperature range: 0 °C to +110 °C Humidity range: 10% RH to 95% RH Illumination: Optional Light / Dark control system comprising of fluorescent lights & control system. Heat / Cool Rates: Heat/Cool rates customized to meet user requirements. Display: LED/LCD display. Controller: Microprocessor/Microcontroller based Controller Compressor: Heavy duty Air-cooled compressor. The compressor is distinguished by its excellent performance, low noise level (<60dB) and minimal vibration. Condenser: Highly efficient condenser with automatic condensate evaporating system Evaporator: Internal evaporator system forced draught Refrigerant: Non-CFC/HCFC environmental friendly based on compressor capacity Air Circulation: Forced air circulation to maintain chamber uniformity. Humidity System: Unique forced air circulation design maintains an even, continuous, moist airflow throughout the cabinet. Perforated trays further enhance even humidity distribution to testing samples. Self-contained stainless steel water reservoir in each chamber assures a relative humidity of 90%. Temperature variation between trays is $\pm 0.5^{\circ}$ C, top to bottom. Power Supply: 220 volts, 50Hz / 110 volts, 60Hz or equivalent specifications.</p>
2.	Ultra-Sonic Cleaner	<ul style="list-style-type: none">• AC220-240V, 50Hz.,• Tank capacity: 2 Ltrs.• Timer: 1-99minutes.• Temperature: 0-80 C.• With LED digital display for temperature and timer.• Turbo power: Normal and soft function to resolve the cleaning blind spot.• Degas function for laboratory purposes.• Memory function.• Automatically ultrasonic frequency tracking.• POSCO SUS304 tank. Stamping tank without welding gap for better waterproof.



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		<ul style="list-style-type: none">User-friendly and clear panel.High-performance transducer systems or equivalent specifications
3.	Digital Analytical Balance	<ul style="list-style-type: none">Capacity: 120g, Accuracy:0.01gLinearity :+/- 0.02g, Pan size: 70mm diaHigh Resolution of 0.01 g with Excellent RepeatabilityLarge LCD Display (15 mm Character Height) with White BacklightTen Weighing Units: gram, carat, momme, ounce, troy ounce, pennyweight, grain, tola, tael (Singapore/HK jewellery/Taiwan),and NewtonTare Function that Offsets the Weight of a Container With Just One Key Press or equivalent.
4.	Computerized single cylinder petrol engine test rig	Single cylinder, four stroke air cooled petrol engine (Reputed Make) <ul style="list-style-type: none">Rope brake / Hydraulic dynamometer.Air tank fitted with air flow transmitter.Fuel measuring system consisting of a fuel tank and fuel sensor.Piezoelectric combustion pressure sensor with low noise cable.Crank angle sensor resolution 1° with TDC+Torque measurement by load cell with transmitterTemperature sensor with transmitters.Rotameter for the engine and calorimeter.Exhaust gas calorimeter made of stainless steel pipe in pipe insulated with ceramic wool and aluminium cladding.Engine interfacing must be performed through load transmitter, temperature transmitter, combustion pressure sensor, crank angle sensors to determine brake power, fuel consumption / specific fuel consumption, Brake mean effective pressure, Brake thermal efficiency, air intake, volumetric efficiency, air fuel ratio, indicated power, friction power, indicated mean effective power, indicated thermal efficiency, and mechanical efficiency, and to study engine performance with pressure and crank angle, pressure and volume plots with compatible software and data-logging package.With compatible PC preloaded Window 7 and MS office/Compatible software to interface engine and UPS. USB slots for data acquisition card or equivalent specification or equivalent.
5.	Four Cylinder four stroke diesel engine test rig	Make of Engine: Kirloskar/Greave or equivalent reputed make. Type of Engine : 4 Stroke / Vertical No of Cylinder : Four Type of Cooling : Water Cooled Rated Power : 10 HP or More Rated Speed : 1500 RPM



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	<p>Displacement : > 1000 cc Loading Arrangements : AC Generator / Loading: Rheostat OR Rope Brake Or Hydraulic Or Eddy Current Dynamometer Exhaust gas calorimeter: Stainless steel with appropriate instrumentation</p> <p>MEASUREMENTS: Fuel Intake : Fuel Tank / Burette / 3- Way Cock Air Intake : Air Tank / Orifice Plate / Manometer Temperature : Engine Jacket Cooling / Engine Jacket Cooling Outlet, Exhaust Gas Outlet and Ambient or equivalent specifications.</p> <p>INSTRUMENTATION: Temperature : Multipoint Digital Temperature Indicator with Thermocouples Cooling Water (Engine jacket): Rotameter Voltage : Digital Voltmeter Current : Digital Ammeter Speed : Digital RPM Indicator</p> <p>EXPERIMENTAL CAPABILITIES: BHP / SFC / Brake Thermal Efficiency, Volumetric Efficiency / Heat Balance Sheet / Mechanical Efficiency / IHP measurement using WILLIAM'S LINE.</p> <p>NOTE: The equipment must be self-contained in all respect including vibro-mounts/stop watch/manual and except for Electric power / Water supply wherever necessary to be provided by the purchaser.</p>
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GENERAL TERMS & CONDITIONS:

1. No separate tender paper will be issued from the office; one should only download the specifications/List from the website.
2. **The rates should be preferably quoted in Indian Rupee and FOR Tezpur University, Napaam basis. Charges for clearing and transportation should be incurred by the supplier.**
3. *Quotations should be accompanied by i) An EMD (in the form of Demand Draft/Call Deposit/TDR) of ₹. 5000/- (Rupees Five Thousand) only drawn/pledged in favor of Registrar, Tezpur University, payable at Tezpur. **No request for consideration of earlier deposited EMD will be considered.** ii) A non-refundable application (quotation) fee of ₹.1000.00 (Rupees One Thousand) only must be paid only by Demand Draft drawn in favour of Registrar, Tezpur University payable at Tezpur.*
4. The rates should be exclusive of GST and applicable GST in % should be clearly indicated
5. Applicable levies, surcharge and discounts should be clearly indicated itemwise.
6. Quoted rates should be valid at least for a period of 01 year.
7. The rates should be quoted along with supporting documents of specifications and technical features and list of users.
8. The system must be installed at the laboratory, and after installation a basic training must also be provided by the supplier or their Indian counterpart without any additional costs.
9. All the quotations must be accompanied with supporting documents and / or literature.
10. Demonstration may be sought from the vendors for authentication of quoted specification.



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11. Details of availability of after sales support will have to be furnished. After sales support, directly from manufacturer and from Assam (Guwahati / Tezpur) will be preferred.
12. The University is exempted from paying Custom and Excise duty.
13. Proprietary items should be quoted with sole Manufacturer/Distributorship certificate.
14. Warranty/Gurantee period should be specifically mentioned in the quotation.
15. No Advance payment will be made. However, for foreign supplier, advance payment will be made either by FDD/Wire Transfer/LC. In such cases 10% Performance Bank Guarantee should be submitted before issuing FDD/Wire Transfer/LC, covering the warranty period.
16. Performance Bank Guarantee also must be submitted for Major equipments of Indian origin, covering the warranty period.
17. Items of Foreign origin should have Insurance up to installation on site.
18. The University reserves the right to accept or reject any or all the quotations without assigning any reason.
19. Quoted price should be inclusive of essential accessories and should be CIF Tezpur University, Tezpur
20. Applications for release of EMD should be submitted to the Registrar/ Joint Registrar.
21. Apart from the above terms and conditions the University has the right to include any other terms and conditions as and when felt necessary.
22. **Quotation should be submitted in the DROP BOX placed in the reception of the Administrative Building of the University on or before 5.00 PM of 2nd December 2017. If posted/couriered, should reach latest by 5.00 PM of 2nd December 2017 addressed to "The Joint Registrar, Tezpur University". The Quotation Notice No. and date should be clearly superscribed in the envelope/packet containing the quotation.**

Sd/- Joint Registrar
Tezpur University